REMARKS

Claims 23-26 are presented for consideration, with Claim 23 being independent.

Claims 23-26 (mistakenly identified as Claims 21-23) stand rejected under 35 U.S.C. §103 as allegedly being obvious over Furusawa '305 alone or in combination with Lee '657. This rejection is respectfully traversed.

Applicants' invention as set forth in Claim 23 relates to a wiring forming method having a first step of supplying a first liquid containing an insulating material on a substrate to form an insulated pattern on the substrate, the first insulated pattern partially forming a first layer, a second step of, after the first step, supplying a second liquid containing a conductive material on the substrate to form a first conductive pattern, with the first conductive pattern partially forming the first layer, and a third step of, after the second step, applying the second liquid on the first conductive pattern to form a plurality of through hole portions on the first conductive pattern, with the plurality of through holes portions partially forming a second layer. Additional steps include a fourth step, after the third step, of applying the first liquid on the first layer that the first insulated pattern and the first conductive pattern have formed to form a second insulated pattern as part of the second layer that the plurality of through holes portions partially formed, and a fifth step of, after the fourth step, forming a part of a third layer by supplying the second liquid on the second layer so as to connect the plurality of through hole portions.

In accordance with Applicants' invention, a high performance wiring forming method is provided.

The primary citation to Furusawa is directed to a multilayered wiring board that is formed using a liquid drop discharge system. A first layer formed on a substrate 10, or board, is a conductive layer of conductive ink to form a wiring pattern 17 (see Figure 1(a)), and, in the next step, interlayer conductive posts 18 are formed, again from conductive ink, for conducting a

second layer through an interlayer insulation film (Figure 1(f)). An interlayer insulation film is then formed by ink 21 (Figure 2(a)), followed by a wiring pattern 31 and interlayer conductive posts 32 being formed, and followed by another interlayer insulation film 33 (Figures 3(a) and 3(b)).

As is apparent in Furusawa, and even acknowledged in the Office Action, the steps of forming a wiring board in Furusawa differ from those set forth in Applicants' Claim 23. In Applicants' claimed invention, an insulating pattern is formed first and then a conductive pattern is formed and followed by, in the third step, another conductive layer. To the contrary, Furusawa forms the conductive pattern first before an insulating pattern, and in fact forms two layers of conductive patterns, i.e., a first layer wiring pattern 17 and a second layer of conductor posts 18, before applying the interlayer insulation film.

On this difference, the Office Action asserts that one skilled in the art would have had a "reasonable expectation of achieving similar success regardless of which layer is applied first...," and thus Applicants' claimed invention would have been obvious over Furusawa, either taken alone or in combination with Lee.

With respect to Lee, the publication discloses a method for forming a multilayer ceramic electronic device. On page 4 of the Office Action, it is asserted that Lee teaches forming a multilayer ceramic electronic device whereby a dielectric sheet is formed on a conductive layer, and as evidenced by Lee it would have been obvious to modify Furusawa to provide a process of first forming the dielectric layer and then filling with conductive paste as opposed to forming [the] conductor layer first.

In response to this assertion, it is respectfully submitted, first of all, that the teachings of Lee are not correctly characterized in the Office Action. While Lee does form a dielectric sheet on a conductive layer, as shown in prior art Figure 1B and Figure 3A, a conductive layer is

formed first (see prior art Figure 1A and Figure 2). In this regard, Lee is no different than Furusawa. Therefore, it is respectfully submitted that Lee cannot be relied on for teaching or suggesting the process of first forming the dielectric layer.

Secondly, regardless of the teachings in Lee, it is submitted that it would not have been obvious to modify the method in Furusawa as proposed in the Office Action. Furusawa provides a multilayer wiring board with a less complex production process that is achieved by forming the interlayer insulation film 21 after formation of the first layer wiring pattern 17 and the second layer conducting post 18. As stated, the interlayer insulation film can be formed after top surfaces of the conducive post are exposed "with certainty" (see column 2, lines 33-43). Furusawa therefore specifically discloses, for stated reasons, a first step of applying a conductive material, a second step of applying a conductive material, and then a third step of applying an insulating material.

In Claim 23 of Applicants' invention, on the other hand, the first step supplies an insulating material, the second step supplies a conductive material, and then the third step supplies a conductive material. By first forming an insulated pattern on the substrate, boundaries or edges can be formed that will allow for a precise application of the second liquid containing a conductive material. This allows for a precise conductive pattern to be formed. To the contrary, forming a wiring pattern and conductive posts before applying the insulation film, as in Furusawa, would not achieve the same results as Applicants' claimed invention and, it is submitted, would not achieve similar success.

Accordingly, it is submitted that Applicants' invention as set forth in independent Claim 23 is patentable over the cited art. In addition, dependent Claims 24-26 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

REQUEST FOR INTERVIEW

Applicants respectfully request a telephone interview in the subject application. Applicants' undersigned representative will contact the Examiner within one week's time for the purpose of scheduling the interview.

CONCLUSION

In view of the foregoing, reconsideration and allowance of this application is deemed to be in order and such action is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

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